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## COMPARATIVE STUDY OF FARMING SYSTEMS IN SOUTH-WESTERN TANZANIA: AGRARIAN ADAPTATION IN A SOCIO-HISTORICAL PERSPECTIVE

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**ABSTRACT** In this article, I discuss the diversification of cultivation in southwestern Tanzania, particularly the Makete district. I focus on farming systems in Tandala village and Iniho village and examine field types, crops, farming methods, and labor forms. These villages use a similar traditional farming system called *masuve* cultivation, which is a type of slash-and-burn cultivation in which mounds of vegetation cuttings are formed and burned on mountain slopes. Farmers mainly cultivate beans, Irish potatoes, and sorghum. Another type of farming, *esiamba* cultivation, involves clearing and hoe-based cultivation on flat fields in a hilly area. Maize and wheat are mainly cultivated in such plots today. As part of socio-political transformations in Tanzania, a modern farming system, including the introduction of new crops, paid labor, and chemical fertilizers, has been adopted to some degree. The two villages examined here have reacted differently to agricultural change. I argue that differences in farming systems have historically developed in ways that reflect the actions and choices of local people, influenced by local conditions with regard to regional politics, Christianization, and post-colonial economic development.

**Key Words:** Agrarian adaptation; Christian impact; Slash-and-burn cultivation; Socio-historical analysis; Tanzania.

### INTRODUCTION

Here, I discuss the diversification of cultivation in southwestern Tanzania, particularly in the Makete district. The district is administratively divided into five divisions consisting of various small ethnic groups, including the Kinga, Mahanji, Magoma, and Wanji. Agro-ecologically, this district has two distinct zones: the highlands, with altitudes ranging from 1,500 to 3,000 m above sea level, and the lowlands, located in a small northern part of the district. The highland zone occupies the greater part of the district. This area receives high amounts of rainfall each year, ranging from 1,500 to 2,800 mm.<sup>(1)</sup> Cultivation takes place in the valleys and on mountain slopes, whereas the highland plateaus are covered with grass and, to a minor extent, used for livestock production. Although all areas within the highland zone share a relatively similar natural environment, farming systems, main crops, and labor forms are locally characterized. In particular, two distinct ethnic groups in the south-central and southwestern parts of the highland zone have unique styles of agrarian adaptation.

In Tanzania, agrarian issues have been key catalysts of socio-economic trans-

formations since the nation's independence in the early 1960s. The government has made efforts to transform agriculture by introducing modern technology, cash crops, and a market system. However, by the late 1970s and continuing through to the 1990s, economic growth worsened, mainly due to agricultural modernization projects, increasing pressure from population growth, and excessive state taxation of agriculture (Ngware, 1997: 22). Rural residents, particularly in the 1990s, have struggled to subsist under on-going economic problems, the unstable natural environment, and socio-political changes. Today, people in rural areas are seeking to increase agricultural production through their own existing resources.

In the Makete district, one of the most underdeveloped districts in the country, many people struggle to maintain a subsistence farming existence. Infrastructure of paved roads, electricity, and tap water has not yet been developed. Cash crops bring in small profits. Local agricultural officers have encouraged people to adopt a modern farming system to increase food production, which would then theoretically lead to a surplus. However, over several decades, food production in the district has not developed significantly. Maize and wheat production decreased from 1985 to 1996.<sup>(2)</sup> The high altitude is an obstacle to the introduction of high-yielding crop types, and the steep mountain slopes prevent farming mechanization. Moreover, soil fertility has been worsening due to shortened fallow periods and fertilizer use. As a result, the appropriateness of implementing modern farming systems needs to be questioned and evaluated.

Such questions have traditionally focused on the science and practice of cultivating the soil and producing crops. However, the agrarian question is more holistic and multidisciplinary. Simply referring to agriculture divorced from its social context is conceptually and technically weak as a means of addressing problems (Ngware, 1997: 15). Natural and social environments, material and human resources, and informal and formal policies are intertwined in the agrarian question. Although various factors such as the availability of land, soil fertility, and climate are critical issues regarding agrarian variation, the local history and the social interactions among and within ethnic groups may also be important in the choice of farming systems and labor styles, as well as the choice of crops. Thus, to analyze agricultural adaptations in the Makete district, I compared the farming systems in Tandala and Iniho villages in terms of field location and size, crop types, farming systems, and labor patterns. I then discuss social and historical factors that may have affected the farming practices of each area.

## METHODOLOGY

I performed a longitudinal study consisting of a participant-observation study, interviews, and household surveys in Tandala village and Iniho village in the Makete district from 1991 to 2001 (Fig. 1). I first conducted research in these areas from 1991 to 1993 as part of an ethnographic study designed to col-

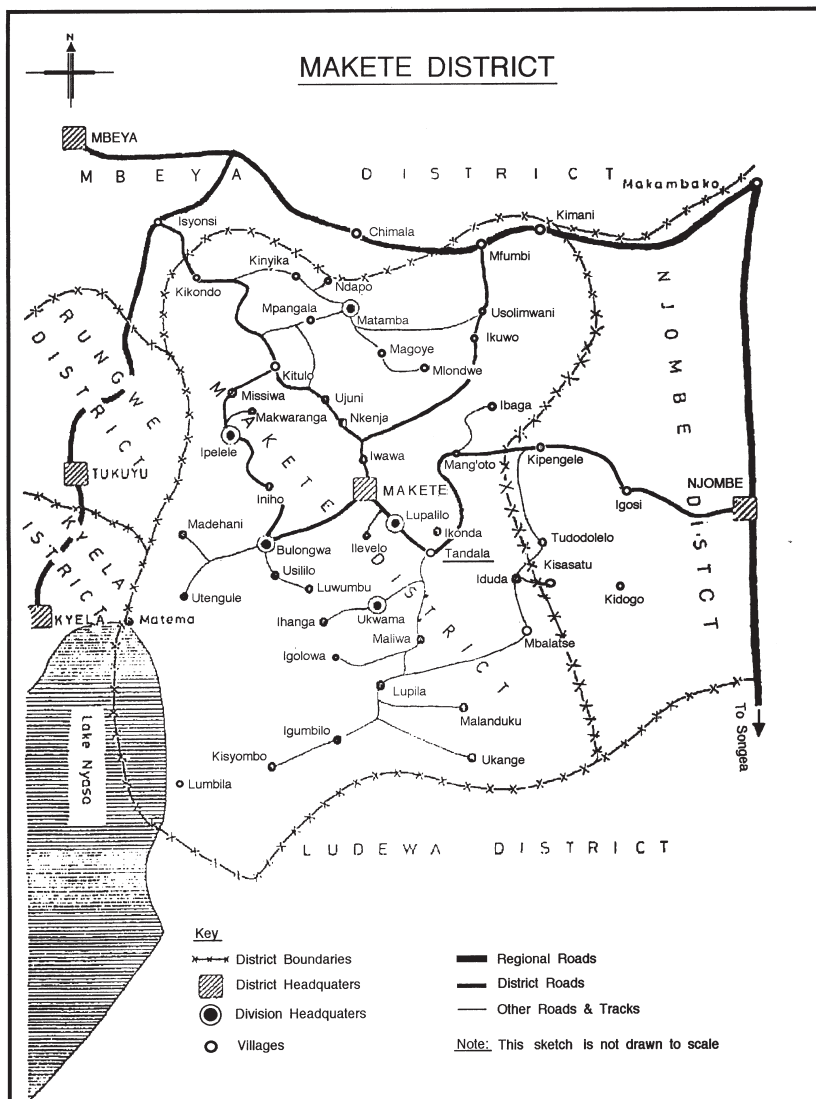


Fig. 1. Map of Makete District (After Löffler, 1991: 15)

lect general information throughout the district. Follow-up research took place in Tandala and Iniho villages in March and September 2001. Whereas the first field research focused on cultural practices, local history, and cultivation, the more recent research focused largely on household surveys pertaining to cultivation, i.e., cropping patterns, farm management, and crop production. The first household surveys, based on a questionnaire, were conducted in Tandala village in February 1993. Successive surveys using the same questionnaire were conducted in Tandala village in March 2001 and in Iniho village in Septem-

ber 2001. In each survey, 50 households were selected at random. I conducted interviews in cooperation with Tanzanian research assistants. The purpose of the survey in Tandala village in 2001 was largely to obtain follow-up data for comparison with the 1993 survey. Thus, the same households were revisited, with a few exceptions. In this report, ethnographic data and farming survey data are discussed in connection with one another.

## ENVIRONMENTAL SETTING AND FARMING

The particular patterns of farming used in the highland area are determined by the specific agro-zone where the farming takes place. There are three primary agro-zones. First, the riverbanks are often cultivated in the dry season to provide a food bridge between the main seasons. This type of riverbank field is called *kinyungu* in the Kinga language and is used to cultivate vegetables, maize, and beans. Second, the valley slopes consist of hilly areas with gentle slopes, which can be prepared simply by clearing and hoeing an arable field with or without ridges. This type of field, called *esiamba* by the local people, is used to cultivate mainly maize, wheat, and sorghum. Hereafter, I refer to this type of farming as “*esiamba* cultivation.” Animal manure is applied occasionally. However, farmers now prefer to use chemical fertilizers in *esiamba*, which has enabled them to abandon the fallow system. Third, the mountain slopes are cultivated with Irish potatoes and beans, as well as maize, wheat, and sorghum. Among these crops, potatoes, and beans predominate on the steep slopes. Fields in this type of area are locally called *mgunda* and are prepared using a slash-and-burn technique by burning mounds of vegetation cuttings on the slopes. These mounds are called *msuve* (pl. *masuve*); hereafter, I refer to this type of farming as “*masuve* cultivation.”

*Masuve* cultivation involves shifting cultivation with a rotation period of 3 years. In other words, four fields are required to carry out this type of cultivation. An average field size is 0.5–1 acre.<sup>(3)</sup> The limited arable conditions on the mountain slopes limit fields to small sizes. At the end of the dry season, small trees, bushes, and grasses are cut and gathered, making mounds 10–13 feet long and 3–5 feet high. This work is known as *kufyeka*. The mounds are then covered with soil by work referred to as *usagala*. Shortly before the rainy season starts, these mounds are burned and left to cool for 1 week. Crops are then planted on the mounds, and the ashes in the mounds fertilize the soil. The harvest from *mgunda* can be abundant. Unlike *esiamba*, fertilizer is never applied to *mgunda*, and this farming method has remained unchanged.

There is considerable variation in soil types, including black to very dark brown loams in the northwest, dark brown to red clay loams in the Kipengere Range, and dark reddish-brown to yellowish-red loams elsewhere. Black loams consist of volcanic ash with high fertility, whereas the other soils have moderate to poor fertility. *Masuve* cultivation is effective in the less fertile soils that occupy most parts of the district. This practice maximizes the use of soil nutri-

ents and prevents field erosion on the mountain slopes, which is caused by run-off from heavy rainfalls.

Most households in the Makete district have fields in each agro-zone and perform both *esiamba* and *masuve* cultivation. However, farming systems vary by locality. In the following section, I discuss field location and size, crops and farming schedules, and labor forms employed in Tandala and Iniho villages.

## FARMING SYSTEMS IN TANDALA AND IHINO VILLAGES

### I. Tandala Village

Tandala village is located in the southeastern part of the district. It became an *ujamaa* village<sup>(4)</sup> in 1974 as a result of villagization, a national campaign to move widely scattered people from surrounding rural areas to *ujamaa* villages. A district survey from 1997 revealed a medium population density of 21.4 persons/km<sup>2</sup> in Tandala village (the national average population density is 26 persons/km<sup>2</sup>)<sup>(5)</sup>, and my survey in 2001 counted 350 households. The main road from Njombe passes through the center of the village, which has contributed to making Tandala village's marketplace the second largest in the district. The marketplace offers shops, small restaurants, and bars along the road. Agricultural products are sold either in shops or at an open-air market. There is another minor road that connects Tandala to the center of the Kinga chiefdom, Ukwama. People from the interior walk for many hours to reach Tandala, where they obtain supplies such as sugar and soap and can take transportation to other towns.

#### 1. Field Location and Size

Farming areas inside Tandala village are limited due to the relatively high population density and the location in the mountains. During the villagization process, people living in the surrounding area were forcefully moved to Tandala village, leading to field abandonment. However, many villagers later returned to their old fields because of a lack of land in Tandala village (cf. Hyden, 1980: 96–125; Friis-Hansen, 1987: 22–25). Today, most villagers must commute to fields far from their residences.

According to my survey in March 2001, farmers walked 46.8 min on average to *mgunda* and 35.8 min to *esiamba*. On average, households had 2.34 *mgunda* plots and 3.34 *esiamba* plots. The average size of each field type was 2.18 acres and 3.07 acres, respectively; thus, the average total field size was 5.25 acres/household. The survey data indicate that Tandala villagers kept almost five plots yearly and spent more than 1 h every day traveling to their fields. Compared to Iniho village, discussed later, Tandala farmers had a smaller number of plots and field size per household and walked longer distances to reach their fields.

## 2. Crops and Farming Schedule

The main crops in Tandala village are maize and Irish potatoes, with a small amount of wheat. These are the main dietary items in the Tandala area. Maize is cultivated in *esiamba* located on household plots and on gentle mountain slopes. Maize is interplanted with peas and pumpkins. Peas are an especially important crop and are used in a dish mixed with maize, known as *kande*. *Kande* is often carried to the field and used as a time-saving prepared food. Irish potatoes are cultivated with beans in *mgunda*. Most people prefer maize to potatoes; however, potatoes are a main crop in Tandala village. As mentioned earlier, the villages in the mountains lack arable land; thus, steep mountain slopes are used intensively for *mgunda* cultivation, and large amounts of Irish potatoes are produced from *mgunda* in Tandala village. Before maize came to be widely cultivated, sorghum was the most important crop and was used to make a stiff porridge and local beer. Today, it is still cultivated in *mgunda* mounds and *esiamba*. Other important crops are beans planted with Irish potatoes.

The agricultural calendar (Fig. 2) in Tandala village begins with August, a dry month, when farmers clear the land for *mgunda* and harvest maize at *esiamba*. At least two to three *mgunda* are cleared and two to three *esiamba* are harvested through September. In October, the wheat harvest begins and the

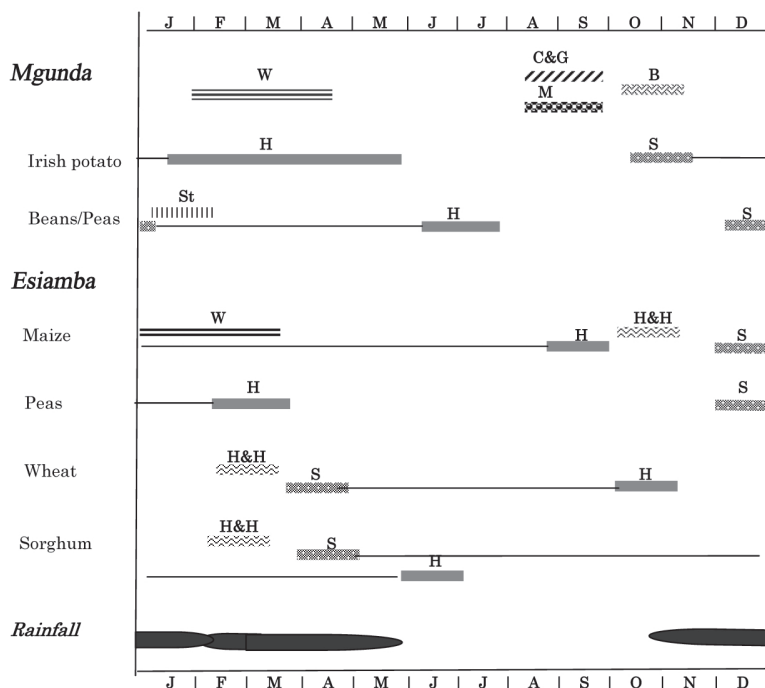


Fig. 2. Agricultural calendar in Tandala village

C&G, grass cutting and gathering; M, mounting; B, burning; St, sticking; H&H, hoeing (and heaping); S, sowing (planting); W, weeding; H, harvesting.

mounds of *mgunda* are burned. At almost the same time, *esiamba* fields are hoed for planting maize. When the rains begin in November, Irish potatoes are planted in *mgunda*, and maize and peas are planted in *esiamba*. Other crops such as beans, peas, and finger millet are then also planted in *mgunda*. In January and February, fine sticks are placed in the ground to support the bean stems, and *mgunda* and *esiamba* are weeded. From February to March, the hoeing of wheat and harvesting of peas begin in *esiamba*; hoeing of sorghum is also done in *esiamba*. From the end of April to May, wheat and sorghum are planted along with peas. During May and June, sorghum from the previous year is harvested, and people begin to pick green beans from *mgunda*. In July, the beans have dried and have been harvested completely. Preparation for the next season begins in the following month.

### 3. Labor Forms

Farming in Tandala village is basically carried out through family labor. However, two other forms of labor are also often used: collective labor and paid labor. Collective labor, called *ugove*, is a traditional form of labor in this area. It is conducted as a labor exchange, so that an organizer of *ugove* is expected to participate in another's *ugove* in return. Relatives and neighbors are called for *ugove*, especially for the work of clearing and hoeing land. An organizer of *ugove* makes a large amount of the local beer either using his crop or from ingredients bought from a local shop. Foods such as *kande* and baked potatoes are also prepared and served while the laborers work in the field. In my 2001 survey, 62% of households in Tandala used *ugove*, at an average of 5 times/year for *mgunda* and 2.9 times/year for *esiamba*.

In addition to *ugove*, paid labor, called *kibarua*, is also commonly used. In 2001, 36% of households used this form of labor. Payment varied, based on the task. The charge for hoeing and clearing land was 8,000 to 12,000 shillings (about \$9–13 U.S.<sup>(6)</sup>) per acre in 2001. Laborers were likely to be non-relatives from other villages. Female-headed households contributed a significant percentage to the labor force for paid work and were provided with food and lodging. People used *kibarua* an average of 2.7 times/year for *mgunda* and 2.2 times/year for *esiamba*.

To summarize, Irish potato production and the intensive use of *masuve* cultivation characterize agriculture in Tandala village. Survey data show that the number and size of *mgunda* plots per household differ only slightly from the number and size of *esiamba*. However, more collective labor and paid labor are employed in *mgunda* than in *esiamba*. This indicates that Tandala villagers rely on *mgunda* in which *masuve* cultivation must be practiced through intensive labor.

## II. Iniho Village

Iniho village is located in the northwestern part of the district. The 1997 district census determined a relatively low population density of 15.1 persons/km<sup>2</sup> <sup>(7)</sup>



in Iniho village, and my survey in 2001 counted approximately 250 households. The road from Makete town passes through this village via Kitulo to the Mbeya district. By car, it takes 2.5 h from Iniho village to Mbeya town, which is an administrative and business center of the Mbeya district. Like Tandala village, Iniho was formed during the villagization process by gathering people from the surrounding area, especially from the lowlands adjacent to Nyakusa land.

### 1. Field Location and Size

During villagization, many people resettled in Iniho village and began farming in this new location. The surroundings of Iniho village lack steep valleys and rivers, which makes foot travel easy. The village is located at the foot of surrounding mountains and extends over a hilly landscape to adjacent villages. This geographic situation provides a large amount of arable land within the village and affects the location of fields cultivated by Iniho villagers.

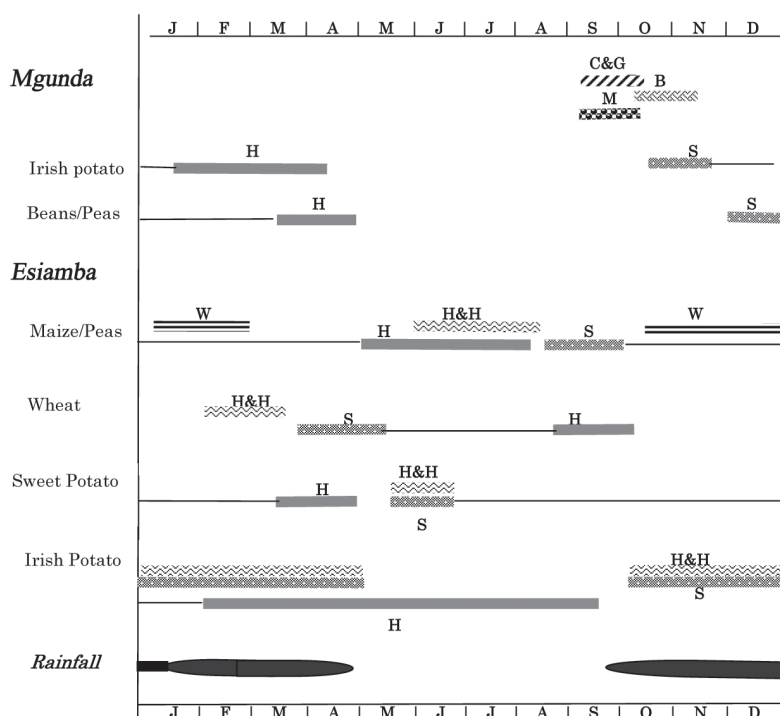
My September 2001 survey revealed that the average travel time by foot was 24 min to *mgunda* and 28 min to *esiamba*. On average, households had 0.04 *mgunda* plots and 10.06 *esiamba* plots. The average field size was 0.94 acres/household and 6.18 acres/household, respectively, for *mgunda* and *esiamba*. Thus, the total field size was 7.12 acres/household on average. There were very few *mgunda* in the village. Compared to Tandala village, fewer *mgunda* were used and more *esiamba* were farmed in larger sizes in Iniho village.

Iniho villagers have *mgunda* in two locations: within the village and outside the village. The latter location is called Magoma Chini. Magoma Chini is a lowland area adjacent to the northern shore of Lake Nyasa, where many Iniho villagers formerly resided. When the households were moved to Iniho village, many *mgunda* in Magoma Chini were abandoned. Today, only a few Iniho villagers still spend about 3 h to walk down to the lowlands to cultivate their *mgunda*. This indicates that Iniho village has been able to provide enough nearby land for cultivation so that the villagers do not need to return to their old fields at Magoma Chini.

### 2. Crops and Farm Management

The main crops in this area are wheat and maize, supplemented by sweet potatoes, Irish potatoes, peas, beans, and *numbu* (Livingstone potato), a finger-like root crop. Wheat and maize are equally important staple foods in this area. Chemical fertilizer is used little in the *esiamba* of Iniho village, whereas it is required in Tandala. In fact, only 2 of 50 households used chemical fertilizers for planting in Iniho village.

The agricultural calendars of Iniho and Tandala villages also differ. For example, the preparation of *mgunda* for beans and Irish potatoes in Iniho village is conducted a little later than in Tandala, whereas the process of cultivating maize in *esiamba* takes place a couple of months earlier (cf. Fig. 3). My survey data indicate that this difference has to do with the number of farming plots of each field type. Iniho has more *esiamba* per household on average



**Fig. 3.** Agricultural calendar in Iniho village

C&G, grass cutting and gathering; M, mounting; B, burning; St, sticking; H&H, hoeing (and heaping); S, sowing (planting); W, weeding; H, harvesting.

than does Tandala (i.e. 10.06 *esiamba* in Iniho versus 3.34 *esiamba* in Tandala). On the other hand, the average Iniho household only has 0.04 *mgunda*, whereas this figure is 2.34 *mgunda* in Tandala. Theoretically, as the number of farming plots increases, the farming workload becomes heavier. Because the farming schedule is determined by nature, especially rain, farmers must adhere strictly to routines such as planting and harvesting. Thus, if the workload becomes heavier, people may begin the work earlier to complete all the tasks on time. Furthermore, the rainy season in the Iniho area, which is located near Lake Nyasa, starts about 1 month earlier than in the Tandala area. As a result, planting and harvesting in the Iniho area must be started earlier than in the Tandala area. Thus, in Iniho village, where people tend plots of *esiamba* for maize and wheat, the heavy work necessary for these crops in August and September is given priority over other work, such as potato preparation in *mgunda*.

The use of *mgunda* also has some distinctive characteristics in Iniho village. First, Irish potatoes and beans are planted separately in Iniho village, whereas they are generally planted together in Tandala village. Further, in Iniho village, Irish potatoes are planted in *mgunda* and *esiamba*<sup>(6)</sup> within the village. Beans are also planted in *mgunda* and *esiamba* within the village, but only in *mgunda* in Magoma Chini, the lowland area outside the village. *Masuve* cultivation

has always been used in *mgunda*. Beans from Magoma Chini are considered a valuable crop, and their market price is higher than those from the highlands. Second, the field management of beans in *mgunda* differs between the two villages. In Tandala village, weeding and sticking are considered important tasks for a good bean harvest; however, Iniho villagers rarely perform these tasks. After planting beans in *mgunda* in December, the field is left alone until harvest in March of the following year. Moreover, the fallow rotation of *mgunda* in Magoma Chini is only 2 years, which is 1 year shorter than for Tandala village fields. This suggests that the soil of Magoma chini has greater fertility.

In addition to food crops, pyrethrum is cultivated as a cash crop in Iniho village.<sup>(9)</sup> Suitable soil conditions and climate in the Ihino area enable farmers to cultivate large amounts of pyrethrum. A successful farmer can harvest 15–20 kg from 1 acre each month during the dry season and 30–40 kg during the wet season.

### 3. Labor Forms

The people of Iniho village rely largely on family labor. Paid labor is used by 36% of households and collective labor (*ugove*) by 20% of households. Notably, the percentage of collective labor used is much lower than in Tandala village. This indicates that the people of the two villages have different preferences and perceptions of collective labor. Tandala villagers express a preference for collective labor, saying that “it is cheaper than paid labor to clear a field and hoe it,” “it finishes the work faster than paid labor,” and “it enhances social relationships within the village.” In contrast, Iniho villagers emphasize the inefficiency of collective labor, which most insist is slow and slipshod. They often say, “spending money on collective labor is a waste.” There is no substantial difference in collective labor between two villages. However, people perceive it differently. As mentioned earlier, a characteristic of *ugove* is beer drinking, which the Christian church has strongly prohibited in Ukinga. Therefore, the different perceptions of the two villages, positive in Tandala and negative in Ihino, can be attributed to church influences. I will discuss this matter further in p. 14.

Another form of collective labor, *nyamakomo*, has recently been developed in Iniho village; 16% of households surveyed engaged in this labor form. *Nyamakomo* is a mutual-aid labor force consisting of five to ten people who are friends. Unlike *ugove*, the members of *nyamakomo* are fixed. Further, in *ugove*, the participants expect their payment in local beer and food, more than in a return of labor. On the other hand, *nyamakomo* participants expect a return of labor on their fields. In fact, a recipient of *nyamakomo* labor does not need to prepare beer and food, but is obligated to participate in other member’s *nyamakomo*.

Thus, whereas the use of family labor and paid labor are fairly similar in Tandala and Iniho villages, collective labor operates differently in the two villages. A low frequency of *ugove* and the development of *nyamakomo* characterize farm labor in Iniho village.

In the following sections, I discuss the history and social and economic conditions of the two villages to further demonstrate their differences in farming systems.

## SOCIO-HISTORICAL ANALYSIS OF AGRICULTURAL ADAPTATION IN TWO VILLAGES

### I. Local History and Ethnicity

Makete was designated as a full district in 1979. Before this designation, the area was known as Ukinga, the land of the Kinga. It is said that the people of Ukinga began to migrate into the area in the seventeenth century (Nyagava, 1988: 84), and their numbers increased as people sought refuge there from dominant ethnic groups such as the Hehe in the east, the Ngoni in the south, and the Sangu in the north. In the pre-colonial era, there was large-scale ethnic conflict in the southern highlands. Particularly in the late nineteenth century, the extension of commercial trade into the coastal hinterlands stimulated regional competition over slaves and local commodities and enhanced ethnic conflicts (Monson, 1998: 100). Those who were able to establish a political unit expanded their control over clans and ethnic groups in the surrounding area. Small clans and ethnic groups escaped from the dominant peoples and sought sanctuary in the Livingstone Mountains.

The word *kinga* in the Swahili language means “to protect” or “to defend.” Being protected from the enemy, the refugees in the mountains were referred to as the Kinga by others in the southern highland area. Thus, Kinga was originally a general term for the people living in the Livingstone Mountains. However, the term began to be used as the name of an ethnic group in the Makete area during the German colonial period. When Germans entered the area, the colonial officials searched for a political leader. They found a number of clans and ethnic groups such as the Sanga, the Magoma, and the Mahanji in a place called Ukinga. After some research, they recognized the Sanga as the ruling ethnic group in the area and appointed a Sanga chief as the paramount chief of the Kinga chiefdom (T.N.A. Southern Highland Provincial Book<sup>(10)</sup>). The Magoma and the Mahanji resisted becoming subjects of the Sanga chief, but were eventually forced to accept the colonial structure, becoming sub-chiefs of the Kinga chiefdom (Koizumi, 1995: 75–84).

During the colonial era, these three ethnic groups were divided between two camps of European powers: the German colonial government and the German church mission. The Sanga sympathized with the colonial government, whereas the Magoma and Mahanji developed strong ties to the German missionaries. The first German missionaries arrived in the area from Nyakusa land by way of the Magoma Chini slightly before German colonization. They encountered a Magoma chief and a Mahanji chief. Unlike the Sanga chief, these chiefs pro-

vided support for the missionaries by offering land and food. As colonization expanded, their relationship with the missionaries strengthened. For the Magoma and the Mahanji, being close to a European power meant strength against the Sanga people. Thus, the historical relationship among the Sanga, the Magoma, and the Mahanji lay at the base of their relationships with the Europeans during the colonial period.

Today, Tandala village, located near the center of the Sanga chiefdom, Ukwama, consists mostly of people of the Sanga group. In contrast, Iniho village, at the center of the Magoma chiefdom, consists of many Magoma and Mahanji and a few Sanga. Because Iniho village is located adjacent to Mahanji land, the people of these two ethnic groups have long inter-married. As a result, many Mahaji people now live in Iniho village. The Sanga living in Iniho village are descendants of officials of the Kinga chiefdom, who arrived during the early German colonial period. Most were sent by a Sanga paramount chief to control the area; they married local Mahanji and Magoma women and settled in the area.

Whereas most people of Tandala village consider themselves to be Kinga, many people of Iniho refuse to be called Kinga. They prefer to express their ethnic identity by calling themselves Magoma or Mahanji. The residents of Tandala and Iniho villages evince distinct ethnic consciousness, which has evolved through the process of local history and continues to affect the present circumstances in the Makete district.

## II. Role of Christianity in Changing the Farming System

Christianity was introduced to Ukinga in 1891 (Wright, 1971). The first German missionaries passed through the land of the Magoma and built a mission amongst the Mahanji people of Madihani village. Later, another mission was built in Tandala village. Thus, the Magoma and the Mahanji became the first Christian converts in Ukinga. The successor of the Sanga chief living in the Tandala area has not converted to Christianity, whereas the Magoma and Mahanji chiefs have long been Christians.

Communicating with the first mission, the lives of the Magoma and the Mahanji quickly became influenced by Christianity. Missionaries devoted themselves to education and medical care for the local people with the aim of evangelization. They introduced new crops (wheat and Irish potatoes) and medicines, as well as new beliefs. The good harvests from the missionaries' fields and seemingly magical effects of the new medicines at the mission hospital amazed the people. Awestruck by the European way of life, their interest in Christianity grew stronger (Koizumi, 1995: 194). Being a Christian meant a better life for people who were struggling just to survive. At the same time, it meant a separation from local religious practices, especially the ancestral worship rituals and witchcraft. After thinking through Christianity, the Magoma chief, as well as his followers, abandoned traditional farming practices and adopted Christian ways. One of the most celebrated pastors was the son of a Magoma chief,

Mwenentela Fungo.

Today, Tandala village is another center of Christianity in Ukinga. The villagers have incorporated new crops and labor forms introduced to them by the church. However, because a prominent Sanga diviner and descendants of the Sanga paramount chief reside in the neighboring village, many people, including the Christians in Tandala village, continue to use traditional collective labor, *ugove*, and practice some traditional religious rituals relating to farming activities. For example, a form of traditional collective farming called *mkwila* (a kind of *ugove*) is used to cultivate the chief's fields. The people in his village are obligated to participate in this labor. During *mkwila*, the chief conducts important farming rituals in the village fields. He sacrifices sheep to the ancestors and gods and offers them special beer in hopes of a good harvest. After the *mkwila*, the people are allowed to cultivate their own fields. They first conduct ancestral rituals with the organized collective labor, *ugove*. *Mkwila*, with its ancestor-worshipping ritual, still occurs in a neighborhood of Tandala village, and the traditional religious practice plays an important role in farming in Tandala village. However, *mkwila* is no longer practiced in the Iniho area. The Christian Magoma leaders, including chiefs, refused to continue the *mkwila*, mainly because of its relationship with ancestor rituals. Following their leaders, most people also deserted traditional forms of farming, namely, ancestral worship and *ugove*. Thus, negative attitudes towards *ugove* in the Iniho area can be explained in terms of religious orientation.

For Christians, the traditional rituals and beer drinking associated with *ugove* were problematic. As a result, the Christians of Iniho began a new style of collective work that removed those troubling aspects. *Nyamakomo* arose in Iniho village to fill the gap created by the cessation of traditional farming rituals. As discussed earlier, *ugove* is a collective work open to the public, including relatives, neighbors, and friends. It functions by not only providing an intensive labor force, but also by consolidating social and religious relationships in the community. A collective ritual imbued with the authority of tradition and a social activity such as beer drinking are important aspects for the consolidation of village members. As people participate in the religious ritual and beer drinking associated with *ugove*, they confirm their belongingness and smooth social relationships in the community. In contrast, only close friends who bring their own food and drink organize *nyamakomo*, which aims simply to provide mutual help for a heavy farming load. Separation from traditional social and cultural aspects has been critical to Christians who have created a new community in the area.

The Christians in Tandala made another adaptation to their problematic circumstances that differs from that in Iniho. As described earlier, 62% of households in Tandala used *ugove*, whereas only 20% in Iniho used collective labor. Furthermore, none of the households in Tandala used *nyamakomo*, whereas 16% of households surveyed in Iniho used it as substitute for *ugove*. These figures indicate that the traditional labor form, *ugove*, has been maintained to a much greater extent in Tandala village than in Iniho village. However, examining the



use of *ugove* in Tandala, I found a new form of *ugove*, at which only tea and food were served, but no beer. Some Christians conducted *ugove* without ancestral rituals and beer, although they could not attract as many people with this new style of *ugove* as they could by conducting the traditional form.

Thus, the different responses to *mkwila* and *ugove* created by the people of the two villages can be explained in terms of not only the efficiency and efficacy of the activities, but also the relationships with Christianity in these two villages. As mentioned above, Christianization occurred to different degrees in Ukinga as a result of politics between the Sanga and the Magoma. In the Iniho area, under Christian political leaders, Christian culture has experienced a smooth transition into mainstream society. In contrast, in the Tandala area, located close to traditional religious leaders, the transformation to new ideas and practices has not taken place as easily. These differences can be said to have affected the diversity of farming styles in the area, particularly with regard to labor practices.

### III. Economic Conditions

Tandala and Iniho villages are economically well off due to their location along a main road, resulting in a steady flow of cash in both villages. Having easy access to Njombe and Mbeya towns, the centers of neighboring districts, the people in the two villages are able to sell agricultural products at large markets. Not only goods, but also people move in and out of these two villages more frequently than in other villages located further from the main road. Businesspeople and drivers come and go between the villages and towns to trade goods. In Tandala village, timber and potatoes are traded extensively. In Magoma village, wheat, maize, and pyrethrum are the main agricultural products for sale. Trees for timber are also available in Iniho village and were planted by people working with the church and the colonial government about a century ago. However, it is difficult to find a skilled logger in the Iniho area. It is believed that the only loggers who can cut trees economically are the Sanga people, but it is too expensive to hire them. This may be one of the reasons for the low production of timber in Iniho village.

In recent years, pyrethrum has become an important cash crop. Because of the suitable land and climate, Iniho village has been producing large amounts of pyrethrum. In 2001, 1 kg of pyrethrum was worth 420 shillings (about \$0.47 U.S.).<sup>(11)</sup> One acre of pyrethrum could produce approximately 15 kg of flowers, earning a farmer approximately 6,300 shillings/month (about \$7 U.S.). This estimate could possibly be doubled during the rainy season from December to April because of a substantial increase in yields.

Because of the lack of arable land, few people in Tandala village cultivate pyrethrum. Poor soil fertility is another obstacle to its cultivation. As a result, the production of pyrethrum is low in Tandala village. Instead, people earn cash by engaging in small business and paid jobs. There are many large and small shops, three schools, a mission hospital, and a church in the village. Many peo-

ple earn cash from these non-agricultural activities either on a full-time or part-time basis. The money is often used to purchase fertilizer and pay people to do jobs for them. Only by doing so can they gain a certain amount of harvest from scattered and distant fields. In contrast, Iniho village provides few opportunities for non-agricultural activities. Villagers mainly rely on selling their own food crops and pyrethrum to hire paid labor and buy non-agricultural products such as sugar and cooking oil. Iniho villagers are fortunate to be able to obtain a good harvest without using fertilizer from the large amount of fertile, arable land.

Thus, the pattern of cash flow differs between the two villages. However, the economic conditions in these two villages are better than in other areas of Makete district. Many places in the district do not have a noticeable agricultural surplus for sale, as does Iniho village, or cash income, as does Tandala village, whereas a certain amount of cash is needed to obtain daily basics. Furthermore, much cash is needed for fertilizer and paid labor for cultivation. In this respect, by having a means of earning cash, the people of these two villages have more room to invest money in agriculture than those in the interior villages.

## CONCLUSION: THE LOCALIZATION OF FARMING SYSTEMS IN THE MAKETE DISTRICT

I examined the characteristics of farming systems in Makete district by comparing two villages with different geographical and soil conditions, as well as different historical influences. In recent years, the most palatable grains in the district have been maize and wheat. Most people are eager to cultivate these crops and have adopted new farming technology. However, there are preferences in terms of crops, farming methods, and labor forms used in the two villages. For example, during my study, wheat and maize cultivation in *esiamba* were dominant in Iniho village, and Irish potato cultivation in *mgunda* was dominant in Tandala village. *Ugove*, a traditional labor form, was used intensively in Tandala, but only slightly in Iniho village.

Today, *esiamba* stands for new farming and *mgunda* represents traditional farming. However, *esiamba* has been used in traditional farming. Before the introduction of new crops, people planted mainly sorghum, millet, and Livingstone potato in *esiamba*. When maize and wheat were introduced by the missionaries and colonialists in the late nineteenth century, they took a place in *esiamba*. After independence, the government emphasized agricultural development as a part of nation building. Agricultural officials traveled throughout the country, enthusiastically introducing new crops and modern agricultural technology such as chemical fertilizers into *esiamba*. As a result, the new crops, as well as *esiamba*, became a symbol of modernization. In this regard, the people of the Iniho area, who use *esiamba* heavily, can be considered well adapted to modern farming, whereas the people of Tandala have retained traditional farming in *mgunda*.



Further, farming choices can also be understood as a consequence of social conditions in the district, as well as local adaptations to the natural environment. In particular, political differences between the Sanga and the Magoma are reflected in their farming practices. The relationship between the Sanga, the politically dominant ethnic group in the area, and the Magoma, the politically subordinate group, has allowed the Magoma to emphasize their identity. They are eager to exert their own culture and distinguish it from that of the Sanga. Their particular adaptations to a modern farming system can be seen as a way of expressing their own ethnic identity. As described previously, the initial reason for the Magoma's conversion to Christianity was political. In other words, their conversion was initially a strategic action against Sanga rule. As a result, the Magoma were the first ethnic group in the area to obtain many aspects of a Western lifestyle, including a new farming system as well as a new religion. As the church established its position in Kinga society, Christianity, in conjunction with various cultural and technological trappings of the West, became a cultural icon for the Magoma to distinguish themselves from the Sanga. Their positive attitude toward Christianity sometimes contributed to their dramatic alteration of key traditions, such as in the case of *nyamakomo*.

In addition to changes in their farming system, the Magoma people have developed a unique idea about *mgunda* to express their identity. In the Tandala area, a field is categorized by the farming method, not the crop, so that *mgunda* means a type of field that is prepared by a traditional farming method, namely *masuve* cultivation. Some people cultivate Irish potato, beans, and sorghum; others cultivate only Irish potato and green beans in *mgunda*. No matter what they plant, they call a field of *masuve* cultivation *mgunda*. However, although the Magoma people have *masuve* fields in two locations, highland and lowland, they consider a field only in the lowlands (Magoma Chini) in the old Magoma territory to be *mgunda*, where only beans are planted. They cultivate Irish potato by *masuve* cultivation in the Iniho village area, but they do not consider such a field of potatoes to be *mgunda*. Thus, to the Magoma people, only a particular kind of crop and location is considered to be *mgunda*; namely, beans and Magoma Chini. They are proud of their beans from the lowlands and emphasize their superiority over other beans harvested in Ukinga. This fact indicates a certain political consciousness among the Magoma. Because the concept of *mgunda*, unlike *esiamba*, did not change during the process of introducing a new farming technology, *mgunda* became a cultural index of a local tradition. The Magoma people further emphasized the cultural embeddedness of *mgunda* farming by growing only their unique crop, beans, via *mgunda* to express their tradition and highlight their ethnic identity.

I conclude by emphasizing the significance of socio-cultural aspects in local farming systems in the Makete district. The data and examples I have presented demonstrate that the diversification of farming systems in the district reflects socio-cultural adaptations underlying historical interactions among ethnic groups, the acceptance or rejection of Christianity, and reactions to economic conditions. Of course, environmental conditions must be a primary factor in any explana-

tion of agricultural diversification. People must work within the natural environment in which they live and make a living. However, farming conditions alone is not a sufficient explanation. People as social beings have made agricultural choices based on religious, political, and economic concerns within the scope of natural conditions. I have illustrated that similarities and differences in farming systems in this area have resulted from not only agricultural intentions, but also cultural and social intentions.

#### NOTES

- (1) The Planning Commission & Makete District Council (1997), p. 10.
- (2) The Planning Commission & Makete District Council (1997), p. 16.
- (3) The size of fields was not based on actual measurements, but rather on local perceptions of field size. Although the farmers can determine the exact size of *esiamba*, the size of *mgunda* is difficult for them to estimate because the shapes are asymmetric.
- (4) The concepts of ujamaa villages and "villagization" emerged following independence and were seen as ways of providing a better standard of living to rural people, who were to be equipped with various village services and infrastructure such as roads, a water supply, and schools; the ujamaa concept emphasized cooperative and socialist principles of mutual development among villagers.
- (5) The Planning Commission & Makete District Council (1997), p. 9. Tandala village belongs to Lupalilo division of Makete district.
- (6) A dollar was exchanged at 890 shillings in September 2001.
- (7) The Planning Commission & Makete District Council (1997), p. 9. This number represents a population density of the Magoma division of Makete District, to which Iniho village belongs.
- (8) Irish potatoes have long been cultivated in Iniho village, although at a small scale. Potatoes can be planted in esiamba anytime from September to April of the next year and harvested from March to September.
- (9) Pyrethrum refers to a number of species from the genus *Chrysanthemum* and is used as an insecticide.
- (10) Tanzania National Archive (T.N.A.), microfilm No. 10.
- (11) The market for pyrethrum has become problematic, however, because pyrethrum was overproduced in 2002. Although the price of pyrethrum in Makete in early 2002 still remained at 420 shillings, farmers will eventually face a critical situation.

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